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ABSTRACT

Two purposes of this Child Development Associate (CDA) module are to teach CDA interns the value of woodworking activities in the preschool center and to provide them with information about the needed equipment, materials and supplies. Objectives are stipulated, intern activities for each objective are suggested, and an assessment checklist is provided. Also included are lists of (1) reasons for including woodworking in the preschool program, (2) equipment, materials and supplies needed for a woodworking center, (3) pointers for supervising the woodworking center, and (4) resources for further study. (Author/RH)

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Competency Based Training Module #30

WOODWORKING

by

Nina Brannen

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NOTE TO THE INTERN:

This CDA training module has been prepared as a guide for you and your CDA Advisor to help you to develop certain practical skills necessary for your work in an early childhood center. Although it contains many useful ideas, it is not intended to be a self-study program. Many decisions about your training experiences are left up to you and your CDA Advisor. The activities given in this module are "suggested" activities, and should be used if they are appropriate to your learning needs. You or your Advisor may come up with other activities more appropriate for your particular situation, children, or background of experience and training.

Your Advisor will evaluate your performance in each of the objectives. S/he may do so right away on the basis of skills you already have, or s/he may evaluate you after you have done some learning activities, or both. If you think you already have the skills required by some of the objectives, you should ask to be evaluated right away. You may not have to do any activities for some of the objectives. You do, however, have to demonstrate the required skills for your advisor; you cannot just tell s/him that you have the skills. If your advisor has already observed some of the skills before you entered this module, s/he may check you off on those skills without further observation.

When your Advisor has evaluated your performance in an objective area as satisfactory, s/he will initial and date that objective as completed in your copy of this module. When all of the objectives have been initialled, you have completed the requirements of this module and have earned credit. Keep this module as your permanent record of completion, and as a reference to use in your classroom.

As you can see, how fast you are able to complete this module depends on a lot of things: how much time and effort you can put into it; how much help your Advisor can give you; how much experience and training you have already had.

The Arizona/Nevada HSST/CDA Program hopes that you find your participation in CDA a valuable and practical training experience. We would appreciate any suggestions you may have for improvements in the training program and in this module.

WOODWORKING

CDA TRAINING MODULE #30

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This module relates to the following CDA Competencies:*

A. SET UP AND MAINTAIN A SAFE AND HEALTHY LEARNING ENVIRONMENT
(see items 3, 4, and 5)

B. ADVANCE PHYSICAL AND INTELLECTUAL COMPETENCE
(see items 1, 3, 4, 5, and 7)

C. BUILD POSITIVE SELF-CONCEPT AND INDIVIDUAL STRENGTH
(see items 1, 2, 5, and 7)

D. ORGANIZE AND SUSTAIN THE POSITIVE FUNCTIONING OF CHILDREN AND ADULTS IN A GROUP LEARNING ENVIRONMENT
(see items 1 and 3)

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* for reference, see the Arizona HSST/CDA "CDA Assessment"

WOODWORKING

INTRODUCTION

Woodworking has a strong appeal for many children, both boys and girls. It can be beneficial and satisfying. The purpose of this module is to impress upon the intern the many values of this activity as well as to provide specific information about the equipment and materials needed along with supplies that are desirable.

In order to develop skills and to bring about feelings of accomplishment and satisfaction, proper supervision of the woodworking center is essential. Specific information regarding this supervision is not readily available and this module attempts to fill that need.

Woodworking is a purposeful play and/or work activity which encourages using the hands, develops eye-hand coordination, promotes problem solving as well as mathematical concepts. It is an important part of the activities offered to your children in child development programs.

OBJECTIVES, ACTIVITIES, ASSESSMENT

CDA Intern's Name_____

Date of Entry_____ Date of Completion_____

OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT
1. The intern will demonstrate an awareness of the values of woodworking for the preschool child.	1. Read Section I of the Study Guide. List at least five reasons for including woodworking in the preschool program.	_____ date/initial
2. The intern will demonstrate that she/he is knowledgeable concerning the equipment and materials needed in a woodworking center for preschool children, and how this equipment and these materials should be stored.	2. Read Section II of the Study Guide. a. List the essential equipment needed for a woodworking center, giving type and size of tools. 1) Discuss proper height of work bench and why this is important. 2) Describe the kind of nails that should be available. 3) Describe the kind of wood best suited for use by young children. b. List several accessories that are desirable for your woodworking center. 1) How can wheels for toy trains and cars be provided? c. Discuss the storage of tools and materials, drawing a diagram showing proper storage of tools.	_____ date/initial

OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT
3. The intern will competently supervise a woodworking center.	3. Read Section III of the Study Guide. a. Supervise a woodworking center in your classroom while your advisor observes the following: 1) Does the intern have a knowledge of the proper use of tools? 2) Does the intern have the ability to set limits and see that the limits and rules are respected? 3) Does the intern have the ability to encourage and help so that the child realizes feelings of success and satisfaction? 4) Does the intern have an understanding of individual needs based on age, ability, and interests? 5) Does the intern have the ability to help the child solve his woodworking problems? 6) Does the intern have the willingness to help the child develop his own ideas and not impose the teacher's plans upon the child?	date/initial
4. The intern will provide opportunities for the children to use tools to solve problems or meet needs that arise in the woodworking center.	4. Read suggestion in Section III-C-1 of the Study Guide. Guide the children in at least two activities for which tools are used to meet the needs or solve the problems of the woodworking center.	date/initial

OBJECTIVES	SUGGESTED ACTIVITIES	ASSESSMENT
5. The intern will plan a program which includes an opportunity for the children to observe a skilled craftsman using woodworking tools.	5. The intern will plan for one of the following activities: a. Invite either a carpenter, cabinet maker or manual training teacher to visit the center and build a simple object from wood while the children observe and ask questions. b. Take the children on a field trip, preferably in the neighborhood, to observe workmen constructing a building. Choose a time when there will be at least one carpenter on the job.	date/initial
6. The intern will demonstrate an appreciation and respect for the products of woodworking and seek ways to convey this appreciation to the parents as well as the child.	6. Arrange a display of the woodworking products of the children, including products of younger children and those not as skilled as well as the more capable woodworkers. Invite parents to see the display.	date/initial

WOODWORKING

STUDY GUIDE

I. Reasons for including woodworking in the preschool program:

A. Woodworking has a strong appeal for many children.

1. Children of all ages, both boys and girls, find satisfaction at the workbench. The youngest like to hammer big headed nails into firm wall board. Older preschoolers learn to saw as well as hammer and to combine pieces of wood into constructive forms, showing a joy of accomplishment and an appreciation for the tools and materials.

B. Children learn about their world through their senses. At least four of these senses come into use when working with wood:

1. There is the wonderful sound of sawing and hammering, especially enjoyable because it is a legitimate way of making noise.

2. There is the aromatic odor of freshly sawed wood.

3. There are interesting patterns in the grain of the wood and there are delightful biproducts such as sawdust and shavings.

4. Wood gives us varied textures to feel from the satiny smoothness of some boards to the splintery roughness of others. There is also the abrasive texture of sandpaper.

C. The use of tools aides in the development of both large and small muscles.

1. The large muscles of the shoulders, back and arms come into play in both sawing and hammering. As the muscles and nerves are coordinated control is achieved.

2. The use of the hands is essential in woodworking and eye-hand coordination is developed.

D. Working with wood can be a valuable aid in the development of self-confidence and a feeling of importance as a person.

1. There is great satisfaction in being involved in real work with real tools that grown-ups use.

2. The finished product has substance, weight and durability. It is something to be proud of.

3. There is a developing sense of power in the bite of the saw against the wood, overcoming the resistance of the wood.

E. Arrangement of wood into constructive forms is a creative experience.

1. For the younger preschooler the sheer joy of hammering is enough but as skills develop the child usually becomes interested in building something and the imagination soars.

2. As in every creative activity, the appearance of the final product is not the important thing. The joy of creation is.

F. Working with wood presents many opportunities for problem solving.

1. Learning how to hammer a nail straight and then how to pull it out are real problems for the young child.

2. As skills develop the construction of even simple objects such as a small table or doll's bed cause problems to arise which the child can be encouraged to solve. "How many legs do you need for your table?" (Child counts nearby table's legs.) "Should they be all the same length?" (Child measures.) "Will this nail be long enough to go through this piece of wood and down into the board you want to nail it on?" These are just a few examples.

II. Equipment, materials and supplies needed for a woodworking center.

A. All tools used by the children should be regular adult tools--not toys--and of good quality and of appropriate size and weight.

1. The Work Bench. This can be a commercial preschool workbench complete with mounted vises, but home made benches can be satisfactory if they are firm and steady. A sturdy kitchen table with legs cut off to an overall height of 2 feet can be used or two wooden planks 2 inches thick can be placed across two saw horses and secured firmly. It is most desirable for the bench to be movable so that is can be placed indoors or out. Carpentry is an excellent outdoor activity but, if the vises are mounted, the bench cannot be left out in the weather.

2. Hammers. Small, well balanced, bent claw and of sufficient weight (11 to 13 ounces) to provide plenty of force when swung lightly. It takes more, not less, strength to work with a light weight hammer.

3. Saws. Regular cross cut, about 16 to 20 inches long of good steel and kept sharp.

4. Screwdriver. Four to six inches long with ¼ inch blade.

5. Sandpaper Block. Tack sandpaper on a small wooden block with thumb tacks so it can easily be changed.

6. Wood rasp. Medium bite, 10 inches long.

7. Clamp or vise. If you do not have a commercial work bench with a build-in vise you will need large C clamps or a good screw-on vice to hold wood steady while children saw.

8. Other tools. Brace and bit, hand drill and bit and planes are sometimes included in children's woodworking centers. These tools usually cannot be used without adult help by children under five or six and therefore are not essential for the preschool.

B. Materials:

1. Wood. It is most important to obtain soft wood, which usually means pine. Hard wood is darker and with a heavy coarse grain and is frustrating for children to use because they need quickly obtainable success. Gather scraps from lumber yards or cabinet shops. Plywood is also impossible for children to use for woodworking but it is effective for the base of a collage, made by gluing small pieces of wood of different shapes.

2. Wall-board. Heavy, firm wall-board makes a good base for the youngest children to practice hammering. An old railroad tie provides soft wood for beginning nail hammering, also.

3. Nails. Assorted sizes and lengths with good sized heads. Roofing nails have the largest heads and are fine for the youngest children.

4. Sandpaper. Use a variety from fine to coarse 1/0, 1, 2, and 3.

C. Other Accessories.

1. Wheels. Wheels may be made from frozen orange juice cans. The lid should be taped or glued in place, and the can taped to the car or truck. A cabinet maker can slice off many wooden wheels from a length of 2-inch doweling. The lids of small jars can also be used as wheels.

2. Other Supplies.

Ruler and yard stick	Paint
Spools	Brushes
Tongue depressors	Glue
Bottle caps	String
Soft pencil	Screw eyes
Drawer knobs	Hooks
Drawer handles	Washers
Cloth scraps	Hinges
Screws and nuts	

D. Storage for tools, materials and supplies.

1. The arrangement for storing and displaying carpentry materials is important. Children learn respect for tools by imitating the adult's manner in using and caring for tools. If tools and materials are all jumbled together, children will not learn to value orderliness or the importance of choosing the right tool or material for the task at hand.

   a. Storing Tools. Tools should be hung up, not thrown into a box or drawer. A wooden rack or peg-board can be made large enough to accommodate the tools to be displayed. Mount a hook for each tool then draw an outline of each tool on the board. For reading readiness value each tool may be labeled with its proper name. (See diagram on page 142 in Helping Young Children Learn.)

   b. Scrapwood. May be stored in boxes or on shelves according to size with a separate box for the smallest pieces.

c. Nails. As well as screws, nuts, screw-eyes, hooks, etc., should be stored in separate clear plastic or glass containers so that they can be easily located. A small metal container such as a little pie tin or a jar top can be nailed to the center of the work bench to hold nails of assorted sizes for immediate use.

III. Supervision of the woodworking center.

A. Wood construction with tools requires close supervision, consequently the number of children at the work bench must be limited.

1. The size of the work bench and the carpentry facilities will determine how many children can work safely at one time. Children need plenty of space to be safe from one another's energetic endeavors. Probably a teacher should never try to supervise more than four preschool children at once. For threes and young fours, one child on each side of the work bench is a safe arrangement.

B. Children will first need to know how to use tools properly. They must learn that tools have a very definite purpose and cannot be used carelessly or as playthings. Each child should be shown what each tool will do and how he can use it.

1. Using the work bench. The height of the work bench is important. The surface should come to a little below the child's waist, low enough to allow for greater leverage and the use of body weight in using the tools. Two feet in height may be about right for most of the preschool children.

a. This means that boards, wooden boxes or stools must be provided for the smaller children. If children must reach up to use the working surface they cannot use the tools successfully.

b. The work bench must have at least one vise or C clamp to securely hold the wood for sawing.

2. Using the hammer. To get the best leverage, the hammer should be held near the end of the handle. This may be difficult for young children, but they should grasp the handle at least midway up the handle (not close to the hammer's head).

3. Using the saw. It is helpful if the teacher marks the line to be sawed with a soft pencil. The wood is secured in the vise and the child places both hands on the saw for safety. The child puts the part of the saw nearest the handle on the line to be sawed then pulls the saw toward the body, keeping the blade at right angles to the board being cut. The child pushes hard, pulls easy, using long smooth strokes in rhythm. He/she places one foot forward so that the weight can be shifted from foot to foot during the sawing. It is important to keep the blade straight; if it bends to one side or the other it will bind.

4. Using the wood rasp. Place the board to be smoothed in a vise and have the child use both hands on the rasp for safety. Plane with the grain and in one direction only.

5. Suggested rules for the use of tools. (They should be discussed with and understood by the children.)

   a. Tools should be kept at the work bench and used only for the purpose for which they are designed. Under the supervision of the teacher they may be used in other parts of the center for a specific purpose such as making repairs.

   b. Nails are always hammered into pieces of wood, never into the work bench itself.

   c. Tools and materials are carefully put in their proper places when no longer in use.

C. Besides providing materials and tools with instructions in their use, it is through the support and guidance of the teacher that the real value of this activity is accomplished.

   1. The role of the teacher should be:

      a. To explain the rules and their reasons to the children and to see they are respected.

      b. To encourage creativity.

      c. To supply encouragement by giving help (but only when needed) and making suggestions.

      d. To help the child work toward a feeling of success and satisfied accomplishment.

      e. To appreciate the child's hard work and good ideas.

      f. To treat the child's products with appreciation and respect.

      g. To help the child solve the problems he encounters through encouragement and questions.

   2. Just as in any other activity, a teacher should be aware of individual differences among the children in the woodworking center.

      a. The three year old will be mainly interested in hammering nails into a block of wood, content to hammer one nail after another just for the joy of the hammering activity itself. There is no interesting product but the child is learning a skill and in so doing is finding real satisfaction.

      b. In the exploratory stage, action and sound may be more interesting than the end product. There will probably be no plan or purpose and the child should be allowed to invent and manipulate to his own desires.

      c. As skills develop, the child becomes interested in the product. The creative teacher will be ready with suggestions to help carry out the purpose of the child. There will be a wide assortment of accessory material for him to choose from, and he will be allowed to carry out his plan (not that of the teacher).

d. The older preschool child who has had many opportunities to work with tools may be skillful enough to make interesting and useful products.

C. Suggestions for ways in which young children may put tools to practical use.

1. Tools may be used to solve problems or meet needs that arise at the center.

a. Tighten or remove nails that have become loose on the equipment and are a hazard.

b. Use sandpaper to smooth rough spots on the equipment.

c. Build a hat-rack for the many hats in the dress-up center.

d. Build a small table or doll's bed for the housekeeping center.

e. Build a stool for the smaller children to use at the sink or at the work bench.

f. Build wooden signs that can be hammered into the ground and printed by the teacher, such as a sign to be placed near the drinking fountain "FOR DRINKING ONLY".

g. Build traffic signs for the bike path.

h. Make holes in a jar lid for insect specimens.

i. Punch holes in the bottom of a can to make a sieve.

j. Use a ruler or yard-stick to solve problems of - How high? How tall? How long?

2. Suggestions for toys which children enjoy building.

a. Boats: If the child wants the bow to be pointed, draw the point on the board, place the board in the vise at an angle so that the line is vertical and the child can saw straight up and down. For a smoke stack use a wooden spool. Before nailing, place a washer under the nail to keep it from going through the spool hole. For a railing around the deck, hammer nails part way into wood around the edge and wind string around the nails.

b. Airplanes: Popsicle sticks make good propellers.

c. Trains: Join cars together with screw-eyes and hooks. Use toilet paper rolls to make tank cars and engines; paint them.

e. Flags: Cut up an old sheet and let the children design their own flag with crayons or paints, hammer the flags onto sticks and have a parade.

3. Suggestions regarding the painting of products made at the work bench.

   a. Children enjoy painting their constructions, but it is wise to have a rule that there must be some construction before it can be painted, otherwise some children will only paint quantities of wood.

   b. Easel paint can be used. If white glue is mixed with it, it will cover the wood better and the color will rub off less.

RESOURCES FOR FURTHER STUDY

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